Amendments to the Claims

The following listing of claims replaces all prior versions of the claims in the Application. With reference to the listing it is noted that, herewith, claims 40, 42, 43, 49, and 51 are cancelled without prejudice or disclaimer, and new claims 77-80 are added.

Listing of Claims

Claims 1-39 (Canceled)

40. (Canceled)

41. (Previously Presented) An image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said apparatus comprising:

an obtaining unit, arranged to obtain identification information representing an image reading device mounted on the carriage;

a storage, arranged to store reference data, which represents a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device; and

a setter, arranged to read out the reference data from said storage corresponding to the identification information obtained by said obtaining unit and set the readout reference data in the image reading device mounted on the carriage, wherein a print head unit for forming an

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image on a printing medium is detachably mounted on the carriage instead of the image reading device.

42. (Canceled)

43. (Canceled)

44. (Previously Presented) An image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said apparatus comprising:

an obtaining unit, arranged to obtain identification information representing an image reading device mounted on the carriage;

a storage, arranged to store reference data, which represents a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device; and

a setter, arranged to read out the reference data from said storage corresponding to the identification information obtained by said obtaining unit and set the readout reference data in the image reading device mounted on the carriage, further comprising a detector arranged to detect an ambient temperature near the carriage, wherein said storage further stores the ambient temperature in obtaining the reference data.

Claims 45-48 (Canceled)

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49. (Canceled)

50. (Canceled)

51. (Canceled)

Claims 52-59 (Canceled)

60. (Previously Presented) An image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said apparatus comprising:

an obtaining unit, arranged to obtain identification information representing an image reading device mounted on the carriage;

a storage, arranged to store reference data, which represents a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device;

a determiner, arranged to determine whether the reference data corresponding to the obtained identification information is stored in said storage;

an updater, arranged to update the reference data stored in said storage to new reference data obtained from the image reading device mounted on the carriage when the determination result of said determiner determines that the reference data corresponding to the obtained identification information is not stored; and

a setter, arranged to set the reference data corresponding to the obtained identification information in the image reading device mounted on the carriage.

61. (Previously Presented) The apparatus according to claim 60, wherein a print head unit for forming an image on a printing medium is detachably mounted on the carriage instead of the image reading device.

62. (Original) The apparatus according to claim 60, wherein the identification information is input by a user.

63. (Previously Presented) The apparatus according to claim 60, wherein the identification information is stored in the image reading device.

64. (Previously Presented) The apparatus according to claim 60, further comprising a detector arranged to detect an ambient temperature near the carriage, wherein said storage further stores the ambient temperature in obtaining the reference data.

65. (Previously Presented) An image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said apparatus comprising:

a storage, arranged to store reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data; and

a obtaining unit, arranged to obtain the reference data of an image reading device
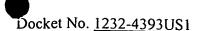
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mounted on the carriage;

a determiner, arranged to determine whether reference data similar to the obtained reference data is stored in said storage;

an updater, arranged to update said storage to store the obtained reference data when the determination result of said determiner determines the similar reference data is not stored; and

a setter, arranged to read out the reference data, which has been stored by said updater or is the similar reference data, from said storage and set the readout reference data in the image reading device mounted on the carriage.

66. (Previously Presented) The apparatus according to claim 65, wherein a print head unit for forming an image on a printing medium is detachably mounted on the carriage instead of the image reading device.

67. (Previously Presented) The apparatus according to claim 65, wherein said determiner determines the similar reference data on the basis of variance of the obtained reference data.

68. (Previously Presented) The apparatus according to claim 65, further comprising a detector arranged to detect an ambient temperature near the carriage, wherein said storage further stores the ambient temperature in obtaining the reference data.

69. (Previously Presented) An image reading method for an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said method comprising the steps of:

obtaining identification information representing an image reading device mounted on the carriage;

determining whether reference data corresponding to the obtained identification information in a storage, wherein the storage stores the reference data, which represents a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device;

updating the reference data stored in said storage to new reference data obtained from the image reading device mounted on the carriage when the determination result represents that the reference data corresponding to the obtained identification information is not stored; and

setting the reference data corresponding to the obtained identification information in the image reading device mounted on the carriage.

70. (Previously Presented) An image reading method for an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said method comprising the steps of:

obtaining reference data of an image reading device mounted on the carriage;

determining whether reference data similar to the obtained reference data is stored in a storage, wherein the storage stores the reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data;

updating the storage to store the obtained reference data when the determination result represents that the similar reference data is not stored; and

reading out the reference data, which has been stored in the updating step or is the similar reference data, from the storage and setting the readout reference data in the image reading

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device mounted on the carriage.

71. (Previously Presented) A computer program product comprising a computer readable medium storing computer program code, for reading an image of original by using an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said product comprising process procedure codes:

obtaining identification information representing an image reading device mounted on the carriage;

determining whether reference data corresponding to the obtained identification information in a storage, wherein the storage stores the reference data, which represents a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device;

updating the reference data stored in the storage to new reference data obtained from the image reading device mounted on the carriage when the determination result represents that the reference data corresponding to the obtained identification information is not stored; and

setting the reference data corresponding to the obtained identification information in the image reading device mounted on the carriage.

72. (Previously Presented) A computer program product comprising a computer readable medium storing computer program code, for reading an image of original by using an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, said product comprising process procedure codes:

obtaining reference data of an image reading device mounted on the carriage;

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determining whether reference data similar to the obtained reference data is stored in a storage, wherein the storage stores the reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data;

updating the storage to store the obtained reference data when the determination result represents that the similar reference data is not stored; and

reading out the reference data, which has been stored in the updating process or is the similar reference data, from the storage and setting the readout reference data in the image reading device mounted on the carriage.

73. (Previously Presented) The apparatus according to claim 41, wherein the identification information is input by a user.

74. (Previously Presented) The apparatus according to claim 41, wherein the identification information is stored in the image reading device.

75. (Previously Presented) The apparatus according to claim 44, wherein the identification information is input by a user.

76. (Previously Presented) The apparatus according to claim 44, wherein the identification information is stored in the image reading device.

77. (New) An image reading method for an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted or a print head unit for forming an image on a printing medium is detachably mounted in stead of the image reading device, and a storage which stores a reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device, said method comprising the steps of:

    obtaining identification information representing an image reading device mounted on the carriage;

    reading out the reference data corresponding to the identification information from the storage; and

    selling the readout reference data in the image reading device mounted on the carriage.

78. (New) A computer program product storing a computer readable medium comprising a computer program, for an image reading method for an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted or a print head unit for forming an image on a printing medium is detachably mounted in stead of the image reading device, and a storage which stores a reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device, said method comprising the steps of:

    obtaining identification information representing an image reading device mounted on the

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carriage;

reading out the reference data corresponding to the identification information from the storage; and

setting the readout reference data in the image reading device mounted on the carriage.

79. (New) An image reading method for an image processing apparatus having a carriage on which an image reading device for reading an image of original is detachably mounted, and a storage which stores a reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device, and further stores the ambient temperature in obtaining the reference data, said method comprising the steps of:

obtaining identification information representing an image reading device mounted on the carriage;

reading out the reference data corresponding to the identification information from the storage;

setting the readout reference data in the image reading device mounted on the carriage; and

detecting an ambient temperature near the carriage.

80. (New) A computer program product storing a computer readable medium comprising a computer program, for an image reading method for an image processing apparatus having a

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carriage on which an image reading device for reading an image of original is detachably mounted, and d storage which stores a reference data representing a signal level outputted from an image reading device in a process for obtaining predetermined reference data, in association with identification information of the image reading device, and further stores the ambient temperature in obtaining the reference data, said method comprising the steps of:

obtaining identification information representing an image reading device mounted on the carriage;

reading out the reference data corresponding to the identification information from the storage;

setting the readout reference data in the image reading device mounted on the carriage; and

detecting an ambient temperature near the carriage.